

## APPARATUS AND METHOD FOR REDUCING PHASE NOISE IN OSCILLATOR CIRCUITS

### ABSTRACT OF THE DISCLOSURE

A resonant oscillator circuit includes an active device and a resonator that causes the active device to oscillate at a resonant frequency of the resonator. The active device includes one or more transistors that are DC biased using one or more resistors. The bias resistors generate thermal noise that is proportional to the resistance value. An external inductor circuit is connected across the output terminals of the active device and in parallel with the resonator. The external inductor circuit shorts-out at least some of the thermal noise that is generated by the bias resistors, and thereby reduces the overall phase noise of the resonant oscillator.

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